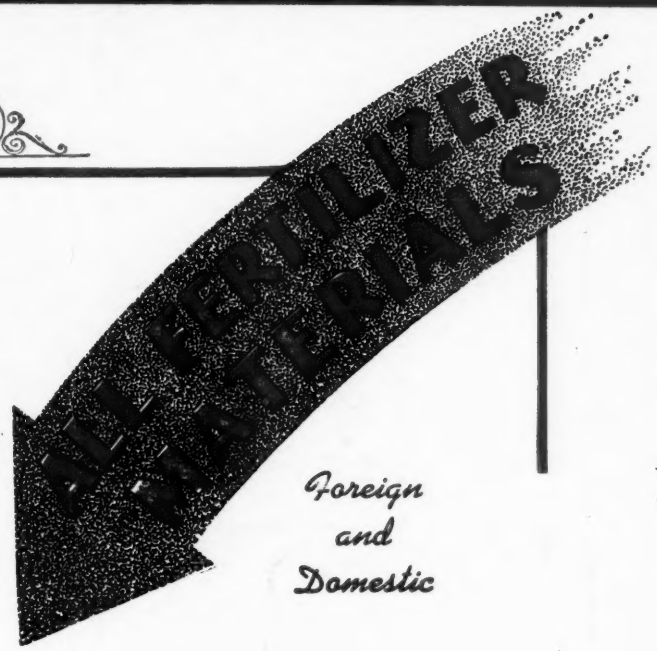
The American FERTILIZER



Foreign and Domestic

- *AMMONIUM NITRATE*
- *SULPHATE of AMMONIA*
- *ORGANIC AMMONIATES*
- *SULPHUR*

VEGETABLE OIL MEALS AND FEEDSTUFFS

Exclusive Distributors Duval Texas Sulphur

ASHCRAFT-WILKINSON CO.

Home Office
ATLANTA, GEORGIA

Branches
NORFOLK, VA.
CHARLESTON, S. C.
JACKSON, MISS.
TAMPA, FLA.

Cable Address
ASHCRAFT

Subsidiaries
INTERSTATE MILLS, INC.
CAIRO, ILL.
INTERSTATE WAREHOUSE
MOUNDS, ILL.

Published every other Saturday. Annual subscription: in the United States, $3.00; Canada and Mexico, $4.00; other countries, $5.00. Entered as second-class matter, January 15, 1910, at the Post Office at Philadelphia, Pa., under Act of March 3, 1879. Registered in United States Patent Office. Publication office, 1900 Chestnut St., Phila. 3, Pa.

A Complete Service

THE strategic factory locations of The American Agricultural Chemical Company, as shown on the accompanying map, assure prompt, dependable service for the complete line of products listed below.

We manufacture all grades of Commercial Fertilizers, Superphosphate, Agrinite Tankage, Bone Black, Bone Black Pigments (Cosmic Black), Bone Ash, Bone Oil, Dicalcium Phosphate, Monocalcium Phosphate, Gelatin, Agricultural Insecticides (including Pyrox, Arsenate of Lead, Calcium Arsenate, etc.), Trisodium and Disodium Phosphate, Phosphorus, Phosphoric Acid, Sulphuric Acid, Ammonium Carbonate, Ammonium Fluosilicate, Magnesium Fluosilicate, Potassium Fluosilicate, Phosphorus Pentasulphide, Phosphorus Sesquisulphide (lump), Zinc Fluosilicate, Salt Cake; and we are importers and/or dealers in Nitrate of Soda, Cyanamid, Potash Salts, Sulphate of Ammonia, Raw Bone Meal, Steamed Bone Meal, Sheep and Goat Manure, Fish and Blood. We mine and sell all grades of Florida Pebble Phosphate Rock.

FACTORIES

Alexandria, Va.
Baltimore, Md.
Buffalo, N. Y.
Cartaret, N. J.
Cayce, S. C.
Chambly Canton, Quebec, Can.
Charleston, S. C.
Cincinnati, Ohio
Cleveland, Ohio
Detroit, Mich.
Greensboro, N. C.
Havana, Cuba
Henderson, N. C.
Montgomery, Ala.
Nat. Stockyards, Ill.
Norfolk, Va.
No. Weymouth, Mass.
Pensacola, Fla.
Pierce, Fla.
Port Hope, Ont., Can.
Savannah, Ga.
Searsport, Maine
South Amboy, N. J.
Spartanburg, S. C.
Wilmington, N. C.

The AMERICAN AGRICULTURAL CHEMICAL Co.

50 Church Street, New York 7, N. Y.

SALES OFFICES

Alexandria, Va.
Baltimore, Md.
Buffalo, N. Y.
Cartaret, N. J.
Charleston, S. C.
Cincinnati, Ohio
Cleveland, Ohio
Columbia, S. C.
Detroit, Mich.
Greensboro, N. C.
Havana, Cuba
Henderson, N. C.
Houlton, Me.
Laurel, Miss.
Montgomery, Ala.
Montreal, Quebec, Can.
National Stockyards, Ill.
New York, N. Y.
Norfolk, Va.
No. Weymouth, Mass.
Pensacola, Fla.
Pierce, Fla.
Port Hope, Ont., Can.
Savannah, Ga.
Spartanburg, S. C.
Wilmington, N. C.

NAME and FAME ARE ONE!

When your brand is printed proudly on a good burlap or cotton bag, it is read and remembered. *Textile Bags stay around longer!*

Use only good bags and cash in on point-of-sale *and* point-of-use advertising! MENTE MAKES MILLIONS OF FERTILIZER BAGS. If it's bags you want to buy—write or phone MENTE!

It's Better to Buy Bonds
Than it would have been to wear them!

MENTE & CO., INC.

I. T. Rhea, President and General Manager

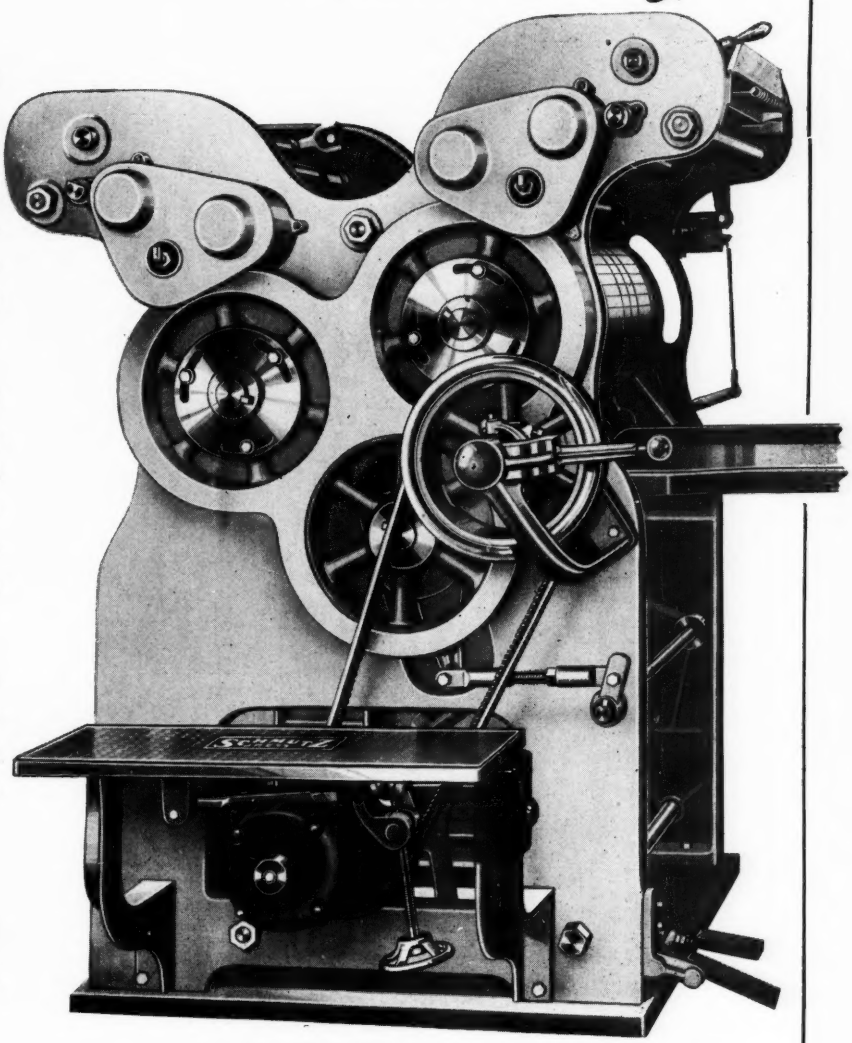
NEW ORLEANS HOUSTON SAVANNAH

print your FERTILIZER BAGS *more attractively*

This new 1945 Model Bag Printer will print any size or type of bag made of paper, burlap, cotton or paper-lined material. It is built in one, two and three colors.

The highest type of printing can be done with this machine at the lowest possible cost. It will also do an excellent job of printing on used bags.

We are in a position to make prompt delivery on printing plates also printing inks for the Fertilizer industry.



MANUFACTURED IN TWO AND THREE COLORS

SCHMUTZ MFG. CO.
INCORPORATED
18th and Main Streets
Zone 3
Louisville, Ky.

CABLE ADDRESS "SCHMUTZ" ◆ LONG DISTANCE PHONE JACKSON 5219

The American FERTILIZER

Vol. 104 JUNE 15, 1946 No. 12

Preliminary Report on Fertilizer Consumption

By A. L. MEHRING and HILDA M. WALLACE

Division of Soils, Fertilizers and Irrigation
Bureau of Plant Industry, Soils and Agricultural Engineerin
U. S. Department of Agriculture, Beltsville, Maryland

A SURVEY was made of fertilizer and plant-food consumption for the year ended June 30, 1944, by the Division of Soils, Fertilizers, and Irrigation in cooperation with the Fertilizer Industry, the War Food Administration and various state officials. A full report, which gives details of methods used, sources of information and the agencies cooperating, is in course of publication as a Department of Agriculture circular. This interim report is offered in order to make the principal data available to the industry and public at an earlier date than would otherwise be possible.

On June 30, 1944, 675 companies including 37 farmer-owned cooperatives were in the business of manufacturing fertilizers. These companies operated 978 separate plants. Nearly all of these companies submitted reports, or the tonnages were obtained from State Reports. Details on grades and kinds of fertilizers were available on 97.6 per cent of the estimated total consumption of fertilizers.

The consumption of mixed fertilizers and of separate materials is shown in Table I with similar data for the 1943 fiscal year. The 1944 total consumption is the highest recorded, but the 1945 consumption is certain to exceed this total. Some states consumed less in 1944 than in 1943, as may be seen from the table.

Only 262 different grades of mixed fertilizers were sold in the year ended June 30, 1944, as compared with over a thousand before 1940. One-sixth of the total sales of mixed fertilizers consisted of the 2–12–6 grade.

The quantities of materials used to make mixed fertilizers and used as such in agricul-

(Continued on page 28)

TABLE I

CONSUMPTION OF FERTILIZERS IN THE FORM OF COMMERCIAL MIXTURES AND AS SEPARATE MATERIALS, IN THE FISCAL YEARS ENDED JUNE 30, 1943 AND 1944

State and Region	Commercial Mixtures		Separate Materials[1]		Total	
	1943[2] Tons	1944[3] Tons	1943[2] Tons	1944[3] Tons	1943[2] Tons	1944[3] Tons
Maine	217,120	210,839	12,281	16,516	229,401	227,355
New Hampshire	19,690	15,135	9,687	9,498	29,377	24,633
Vermont	29,374	12,209	14,643	28,991	44,017	41,200
Massachusetts	65,905	66,023	23,252	29,752	89,157	95,775
Rhode Island	13,428	12,463	2,472	3,289	15,900	15,752
Connecticut	56,070	54,626	26,489	33,294	82,559	87,920
New England	401,587	371,295	88,824	121,340	490,411	492,635

[1] Includes raw rock phosphate and minor element materials, such as borax, manganese sulphate, etc. Also includes fertilizers distributed by Government agencies. Does not include liming materials.
[2] Revised [3] Preliminary.

(TABLE I Continued on Page 8)

TABLE I (Continued from page 7)

State and Region	Commercial Mixtures		Separate Materials[1]		Total	
	1943[2] Tons	1944[3] Tons	1943[2] Tons	1944[3] Tons	1943[2] Tons	1944[3] Tons
New York	285,779	325,653	206,185	193,346	491,964	518,999
New Jersey	189,475	225,243	23,111	27,222	212,586	252,465
Pennsylvania	299,689	352,357	114,178	100,816	413,867	453,173
Delaware	37,195	40,919	3,448	4,077	40,643	44,996
District of Columbia	1,201	1,337	488	156	1,689	1,493
Maryland	168,216	183,052	28,287	29,412	196,503	212,464
West Virginia	38,956	41,130	58,530	23,152	97,486	64,282
Middle Atlantic	1,020,511	1,169,691	434,227	378,181	1,454,738	1,547,872
Virginia	356,645	406,559	180,534	132,157	537,179	538,716
North Carolina	1,049,067	1,135,496	281,706	278,152	1,330,773	1,413,648
South Carolina	585,218	601,043	232,268	224,798	817,486	825,841
Georgia	760,056	805,181	328,704	301,151	1,088,760	1,106,332
Florida	581,707	727,338	79,012	66,542	660,719	793,880
South Atlantic	3,332,693	3,675,617	1,102,224	1,002,800	4,434,917	4,678,417
Ohio	431,442	513,015	68,110	48,103	499,552	561,118
Indiana	346,572	383,663	56,954	41,329	403,526	424,992
Illinois	88,274	115,683	164,278	191,807	252,552	307,490
Michigan	211,454	238,175	55,231	43,659	266,685	281,834
Wisconsin	153,119	152,651	68,419	54,322	221,538	206,973
East North Central	1,230,861	1,403,187	412,992	379,220	1,643,853	1,782,407
Minnesota	29,700	42,878	28,058	30,843	57,758	73,721
Iowa	31,231	45,175	34,291	30,479	65,522	75,654
Missouri	36,728	57,884	109,791	105,216	146,519	163,100
North Dakota	799	1,604	2,048	1,444	2,847	3,048
South Dakota	125	96	350	220	475	316
Nebraska	793	161	1,412	1,371	2,205	1,532
Kansas	1,828	5,047	32,660	34,513	34,488	39,560
West North Central	101,204	152,845	208,610	204,086	309,814	356,931
Kentucky	96,715	142,309	255,295	147,999	352,010	290,308
Tennessee	161,196	173,237	194,683	140,054	355,879	313,291
Alabama	471,674	506,935	262,718	294,772	734,392	801,707
Mississippi	241,924	229,159	247,886	245,710	489,810	474,869
East South Central	971,509	1,051,640	960,582	828,535	1,932,091	1,880,175
Arkansas	102,793	89,631	61,253	89,333	164,046	178,964
Louisiana	122,538	124,352	78,958	93,335	201,496	217,687
Oklahoma	8,475	12,598	7,458	10,091	15,933	22,689
Texas	125,160	155,313	39,971	56,770	165,131	212,083
West South Central	358,966	381,894	187,640	249,529	546,606	631,423
Montana	486	967	4,482	6,334	4,968	7,301
Idaho	1,783	4,097	8,975	24,873	10,758	28,970
Wyoming	139	78	1,453	3,243	1,592	3,321
Colorado	2,453	1,711	5,669	8,210	8,122	10,001
New Mexico	421	457	3,645	5,003	4,066	5,460
Arizona	4,184	6,758	10,976	24,725	15,160	31,483
Utah	401	548	3,117	7,921	3,518	8,469
Nevada	75	130	125	236	200	366
Washington	22,830	22,857	20,761	33,424	49,591	56,281
Oregon	11,877	10,022	23,139	30,445	35,016	40,467
California	131,788	167,033	228,736	341,794	360,524	508,827
Western	182,437	214,738	311,078	486,208	493,515	700,946
Hawaii	42,883	42,373	51,611	48,509	94,494	90,882
Puerto Rico	61,596	176,402	3,293	21,180	64,889	197,582
Noncontiguous territories	104,479	218,775	54,904	69,689	159,383	288,464
Continental U. S.	7,599,768	8,420,907	3,706,177	3,649,899	11,305,945	12,070,806
Total	7,704,247	8,639,682	3,761,081	3,719,588	11,465,328	12,359,270

TABLE II

FERTILIZER MATERIALS, ACCORDING TO USE, CONSUMED IN THE CONTINENTAL UNITED STATES AND TERRITORIES, YEAR ENDED JUNE 30, 1944

Material	Continental United States			Non-contiguous Territories	Grand Total
	Mixed Tons	As Such Tons	Total Tons	Tons	Tons
Normal superphosphate[1]	4,292,000	1,578,000	5,870,000	59,000	5,929,000
Nitrate of Soda[2]	12,000	824,000	836,000	7,000	843,000
Muriate of potash	756,000	40,000	796,000	35,000	831,000
Sulphate of ammonia	576,000	139,000	715,000	115,000	830,000
Ammonia and solutions	322,000	15,000	337,000	3,500	340,500
Dolomite and limestone[3]	320,000	.....	320,000	.....	320,000
Ammonium nitrate[4]	90,000	162,000	252,000	37,000	289,000
Manure salts	214,000	26,000	240,000	.....	240,000
Rock phosphate	28,000	196,290	224,290	10	224,300
Gypsum[5]	80,000	138,000	218,000	.....	218,000
Double superphosphate[6]	58,500	81,000	139,500	10	139,510
Sulphate of potash and of potash-magnesia	114,400	7,400	121,800	4,200	126,000
Process tankage	108,200	800	109,000	.....	109,000
Tobacco stems	97,000	1,000	98,000	.....	98,000
Wet-mixed base goods	91,000	.....	91,000	.....	91,000
Basic slag[7]	.....	91,000	91,000	.....	91,000
Sewage sludge, activated	71,000	20,000	91,000	.....	91,000
Cyanamid	9,000	81,000	90,000	.....	90,000
Castor pomace	82,000	5,000	87,000	.....	87,000
Dried animal manures	20,000	42,000	62,000	.....	62,000
Ammonium phosphate, 16–20	19,100	28,900	48,000	7,000	55,000
Cottonseed meal[8]	35,000	18,000	53,000	.....	53,000
Sewage sludge, other[9]	20,000	21,000	41,000	.....	41,000
Peanut hull meal	30,000	.....	30,000	.....	30,000
Ammonium phosphate, 11–48	10,200	5,400	15,600	6,400	22,000
Nitrate of soda-potash	600	13,900	14,500	4,800	19,300
Peat[10]	16,500	.....	16,500	.....	16,500
Garbage tankage	13,800	200	14,000	.....	14,000
Manganese sulphate	13,000	1,000	14,000	.....	14,000
Cocoa by-products	12,000	.....	12,000	.....	12,000
Bone meal	1,000	10,000	11,000	.....	11,000
Dried fish scrap	2,000	2,700	4,700	.....	4,700
Tung meal	3,000	2,000	5,000	.....	5,000
Guanos	2,000	200	2,200	.....	2,200
Acidulated fish	2,000	.....	2,000	.....	2,000
Miscellaneous chemical nitrogen[11]	20,000	49,000	69,000	100	69,100
Miscellaneous organics[12]	7,000	9,000	16,000	5,100	21,100
Miscellaneous phosphates[13]	5,000	3,600	8,600	.....	8,600
Miscellaneous potash materials[14]	20,000	7,000	27,000	.....	27,000
Miscellaneous materials[15]	16,000	32,000	48,000	.....	48,000
Sand and other filler	856,000	.....	856,000	4,200	860,200
Totals	8,445,300	3,651,390	12,096,690	288,320	12,385,010

[1] Grades containing 18 to 22 per cent available P_2O_5. Includes 712,073 tons distributed by A. A. A.

[2] Includes Chilean, synthetic and by-product nitrate of soda.

[3] Used as fertilizer filler. In addition over 20,000,000 tons were consumed in agriculture as a soil amendment.

[4] Includes 9,453 tons used in T. V. A. demonstrations.

[5] As reported by the fertilizer industry. About 200,000 tons more were sold for use in agriculture by other industries.

[6] In addition about 44,000 tons were used in converting run-of-pile superphosphate into 20 per cent material. 30,926 tons used in T. V. A. test demonstrations are included.

[7] Including 64,165 tons distributed by A. A. A.

[8] Approximately 41,580 tons additional were used as fertilizer on cotton farms.

[9] Additional quantities were disposed of by city sewage disposal plants.

[10] In addition 39,500 tons were used as a soil amendment.

[11] Ammonium nitrate-limestone mixtures, urea.

[12] Hoof and horn meal, dried blood, various seed meals, animal tankage, etc.

[13] Ammoniated superphosphate, basic lime phosphate, base goods, calcined phosphate rock, phosphoric acid, precipitated bone and spent bone black.

[14] Cement mill dust, wood ashes, cotton hull ashes, etc.

[15] Copper sulphate, zinc sulphate, borax, magnesium oxide, sulphur, etc.

(Continued on page 28)

Spencer Chemical Company Enters Fertilizer Nitrogen Field

Jayhawk Ordnance Plant Acquired from Government. Ammonium Nitrate and Fertilizer Ammonia in Large Production. Kenneth A. Spencer, Prominent Midwest Industrialist, Heads Company. Joe E. Culpepper Appointed Fertilizer Sales Manager.

CONVERSION from war to peace has taken place on a large scale at the Jayhawk Ordnance Works near Pittsburg, Kans. The Spencer Chemical Company, successor to the wartime operator, the Military Chemical Works, Inc., have taken over this huge nitrogen plant for the production of basic chemicals for industry and agriculture.

This transition marks one of the first conversions from war to peace in the Middle West. During the war the company was awarded the Army-Navy "E" with Stars for outstanding operating performance. The commercial operation of this company brings to the field of industrial chemistry management and experience gained during the war and permits the economic utilization of midwestern natural resources for the production of useful goods.

For three generations the Spencer family have been engaged in the development and distribution of natural resources of the Middle West. The name is closely allied with the production of coal and its by-products.

The Spencer Chemical Company contemplates the production of basic chemical products, including methanol, liquid carbon dioxide, dry ice, refrigeration ammonia, industrial anhydrous ammonia, technical grade ammonium nitrate, nitric acid and, particularly for agriculture, ammoniating solutions and fertilizer ammonium nitrate. The Jayhawk Works of the Spencer Chemical Company, located near Pittsburg, Kans., has production capacity in excess of 300 tons per 24-hour day of anhydrous ammonia and 300 tons per day of ammonium nitrate solution.

The introduction of Spencer Chemical Company into the field of industrial chemistry with large going facilities at hand insures a substantial and lasting source of nitrogen and other chemical products for industry and agriculture.

During the period that rehabilitation of areas devastated by the war exist, the company will concentrate on the manufacture of ammonium nitrate and anhydrous ammonia. In addition to the principal works near Pittsburg, the company will operate two ammonium nitrate graining plants—one near Parsons, Kans., and a second near McGregor, Tex. The fertilizer ammonium nitrate produced at these points will be distributed by the company in carload lots through established

Spencer Chemical Company Works, Pittsburg, Kansas

distribution channels. The company will maintain its own selling organization with headquarters in Kansas City, Mo.

In order to help create a better balance between industry and agriculture in the Middle West, Kenneth A. Spencer, president of the company, worked toward a plan that would make the abundant natural resources of the area available to agriculture and industry. During 1939 and 1940 engineering studies were made and submitted to the War Department proposing the utilization of the mineral resources of the Middle West, including coal, pyrite, natural gas, salt and phosphate rock through an integrated family of plants to produce strategic war materials.

Kenneth A. Spencer, President, Spencer Chemical Company

The location and construction of the Jayhawk Ordnance Works resulted as a part of this plan. It was then conceived and has since been proven that well-designed plants located in the safe interior of the United States, adjacent to abundant natural resources, have a better than average chance of continuing commercial operation after the war.

The Jayhawk Ordnance Works was built and operated under a prime contract with the Military Chemical Works, Inc., a wholly owned subsidiary of the Pittsburg and Midway Coal Mining Company. That corporation is continuing its peacetime operation under the name of the Spencer Chemical Company.

Since completion of the Jayhawk Plant it has consistently operated in excess of its designed capacity. Its war record is the result of splendid physical facilities, abundance of raw materials, ingenuity of management and complete cooperation of the operating personnel.

On V-J Day the company renewed its formal proposal to the United States Government to acquire for commercial operation the Jayhawk Ordnance Works. This contract was completed on January 29, 1946, with the War Assets Administration. By that date Spencer Chemical Company had become the largest producers of ammonium nitrate fertilizer in the United States. Forced production of agriculture and the scarcity of commercial fertilizer, together with the increased demands for food from this country, has created an unprecedented demand for chemical fertilizer and other nitrogen products.

Nitrogen is the growth promoting element of the soil. It is essential to the rehabilitation of the lowlands of Europe, which have been flooded by sea water and to great areas in Asia. The allocation of nitrogen products for export will be controlled by the Government. It is the hope of the Spencer Chemical Company that production will be sufficient to satisfy the growing domestic demand for nitrogen in this country and still permit, under Government allocation, substantial shipments to the devastated countries abroad.

The Spencer Chemical Company is a private corporation financed with private funds furnished largely by the Pittsburg and Midway Coal Mining Company, its stockholders and directors, together with a substantial private investment by J. H. Whitney & Company of New York City, which investment was made after a thorough investigation of the record and potentialities of the company.

President Kenneth A. Spencer

Kenneth A. Spencer, president of the Spencer Chemical Company, has been active in the industrial developments of the Middle West since his graduation from the University of Kansas in 1926.

Mr. Spencer was chief engineer of the Pittsburg and Midway Coal Mining Company from 1936 to 1938. He then served as general manager and chief engineer of that company from 1938 to 1940. Since 1943, he has served as president of that coal company, operating strip coal mines in Arkansas, Kansas, Missouri, Illinois, and Kentucky. Mr. Spencer organized and is president of the Mineral Products Company of Kansas City, Mo.; he

(Continued on page 26)

THE AMERICAN FERTILIZER
ESTABLISHED 1894
PUBLISHED EVERY OTHER SATURDAY BY
WARE BROS. COMPANY
1900 CHESTNUT ST., PHILADELPHIA 3, PA.

A Magazine international in scope and circulation devoted exclusively to the Commercial Fertilizer Industry and its Allied Industries

PIONEER JOURNAL OF THE FERTILIZER INDUSTRY

A. A. WARE, Editor
C. A. WHITTLE, Associate Editor
K. F. WARE, Advertising Manager
E. A. HUNTER, Southern Advertising Manager
2246 E. Lake Road, N. E.,
Atlanta, Ga.

REPRESENTATIVES
WILLIAM G. CAMPBELL
123 W. Madison St., Chicago, Ill., Phone—Randolph 4780
ROY M. MCDONALD
564 Market St., San Francisco, Calif., Phone—Garfield 8966
541 S. Spring St., Los Angeles, Calif., Phone—Tucker 7981

ANNUAL SUBSCRIPTION RATES

U. S. and its possessions, also Cuba and Panama	$3.00
Canada and Mexico	4.00
Other Foreign Countries	5.00
Single Copy	.25
Back Numbers	.50

THE AMERICAN FERTILIZER is not necessarily in accord with opinions expressed in contributed articles that appear in its columns.

Vol. 104 JUNE 15, 1946 No. 12

Principal Articles in This Issue

THE N. F. A. CONVENTION

The challenge confronting the fertilizer industry in meeting the constantly rising demands for its products, both at home and abroad, was the theme of the 21st Annual Convention of the National Fertilizer Association held at French Lick, Indiana, on Tuesday and Wednesday, June 11th and 12th. About 350 members of the industry attended and the addresses were of more than usual interest.

Tuesday, June 11th

In opening the session, Maurice H. Lockwood, Chairman of the Board and President-elect, expressed confidence that Americans will display "intelligent selfishness" in sharing fertilizer supplies with less fortunate peoples abroad.

Mr. Lockwood also called upon fertilizer industry leaders for "cool reasoning and calm judgment" in attempting to adjust themselves to problems of distribution within this country. "Certainly we are equal to such a test of industry statesmanship," he said, "even though it will at times try our tempers and call upon us for tolerance and understanding."

While recognizing that emergency conditions have caused limited fertilizer shortages in certain areas, he ventured the prediction that the 1945–46 production year will witness a new record output of 13,860,000 tons, a five per cent increase over the preceding year.

"No one need apologize for such a record," declared Mr. Lockwood. "Of course, not all demand has been filled in all areas. The difference between supply and demand is not great, however, and future requirements will be filled just as rapidly as construction and conversion will permit us to create or adapt facilities to the needs. Anyone acquainted with the problems involved in trying to build and equip manufacturing facilities knows only too well how slowly such work may be completed under present conditions and at what elevated costs. In spite of this we may rest assured that the spirit of enterprise is alive and responsive in our industry. The western and midwestern areas are particularly active in initiating such projects, and the older fertilizer using areas of the east and south are re-equipping and supplementing their production, blending and distribution facilities much more rapidly than is commonly appreciated."

Other speakers at the Tuesday session included Frank Rising, General Manager of Automotive and Aviation Parts Manufacturers, Inc., who emphasized the need for business management to help bring back normal, progressive and productive relations with employees. He advocated management have more trained experts to put its ideas and policies into words easily understood by employees and to develop a closer personal touch with them.

Dr. Harry J. Reed, of the Indiana Agricultural Experiment Station, stressed the need of educating the farmers in the needs of soil conservation and the proper methods of attaining a permanent maximum efficiency from the land.

Reports on the public relations program of the Association were made by C. T. Prindeville, of Swift and Company Fertilizer Works, Chairman of the Public Relations Committee, and by John G. Mapes, of Hill and Knowlton.

The annual dinner on Tuesday evening was well attended. Weller Noble presided and the address of the evening was made by Hugh Craig, editor of *Oil, Paint and Drug Reporter*, who spoke on "The Economy of Free Enterprise."The Association's new picture, "Hunger Signs," was also shown. A happy feature of the program was the presentation of a gold wrist watch to H. B. Baylor as an appreciation of his services as Association president during the War years. Mrs. Baylor also received a wrist watch as a reward for "lending" her husband to the Association.

Wednesday, June 12th

The Wednesday session included talks on the "World Food Situation"by James A. Stillwell of the U. S. Department of State, and on "Agricultural Developments in Arkansas" by Dr. R. P. Bartholomew of the Arkansas Experiment Station.

The report on the work of the Plant Food Research Committee, by its chairman, Dr. H. B. Siems, was received with great interest. The intensive agricultural practices of the war years have brought new problems, in that the larger use of fertilizer sometimes increases crop yields to a point where the crop removes more plant food from the soil than is put in. In some of the newer crops, such as soybeans, the best system of soil practice has not yet been scientifically determined and the results from various amounts of fertilizer do not seem to fall into any consistent pattern. The subcommittees

(Continued on page 24)

It's Our Move

On June 14, 1946, the publication offices of THE AMERICAN FERTILIZER were moved to larger and more modern air-conditioned quarters at 1900 Chestnut Street, Philadelphia 3. There will be no change in the telephone number, LOCust 1234 except that, beginning July 5th under the new system adopted for all Philadelphia phones, the number will be LOcust 7–1234.

All of the publishing activities of Ware Bros. Company will be located at the new offices, including THE AMERICAN FERTILIZER HAND BOOK, THE NATIONAL COUNTY AGENT AND EXTENSION REVIEW, and THE NATIONAL COUNTY AGENT NEWS SYNDICATE.

Potash Company of America Issues Anniversary Booklet

In connection with the tenth anniversary of their entrance into the production of muriate of potash, the Potash Company of America has issued an attractive 28-page brochure entitled *The Salt of the Earth.* This booklet, which is very adequately illustrated, gives a most complete picture of the mining and refining of potash as it is carried on in the company's plant at Carlsbad. Of especial interest is the description of the method developed by the engineering staff whereby the muriate crystals are separated from the clay and other chemicals in the crude ore by a mechanical flotation process, thus retaining the natural red color of the sylvinite ore, which is used by the company as a distinguishing characteristic of their product.

There is also included a very comprehensive article by R. A. Pierce, assistant general manager, and L. D. Anderson, consulting engineer, which covers in detail the history and geology of the New Mexico potash deposits, the methods of mining used, and a technical description of the company's mining and refining installations. The various items of machinery used in every operation are described in detail as to make, size and output which makes the article of special interest to the plant engineer.

This booklet is a valuable addition to the library of every user of potash. A copy will be sent on request to any of the Potash Company of America offices in Carlsbad, New York, Atlanta or Peoria, Ill.

May Fertilizer Tag Sales

Fertilizer tax tag sales in May, 1946, continued above a year ago according to reports from state officials of the 16 reporting states to the National Fertilizer Association. May tag sales amounted to 520,000 equivalent tons of fertilizer and were 8 per cent larger than for May, 1945, and 19 per cent larger than for May, 1944. The 11 Southern states accounted for an increase of 4 per cent over May, 1945, with seven of the 11 states reporting increases, while the Midwest reported sales 27 per cent greater than for May, 1945, with four of the five states showing increases.

In the 11 months, July through May, of this fertilizer year, tag sales totaled 8,060,000 equivalent tons and were 10 per cent higher than for the same period of 1944–45 and 17 per cent ahead of the same period of 1943–44. The Southern states increased 7 per cent and 12 per cent over the corresponding periods of one and two years ago, respectively, and the Midwest showed increases of 23 per cent and 46 per cent, respectively.

Sales in the 11 months, July through May, have been steadily increasing each year since the 1939–1940 period, with increases in both geographic areas. Comparing the 11 months' sales in the 1945–1946 period with the sales in the corresponding period of 1939–40, the following increases took place: the South increased 2,249,000 tons or 51 per cent; the Midwest increased 851,000 tons or 159 per cent; and the aggregate of the 16 states increased 3,100,000 tons or 62 per cent.

FERTILIZER TAX TAG SALES

Compiled by the National Fertilizer Association

State	May				January–May		
	1946 Tons	1945 Tons	1944 Tons	% of 1945	1946 Tons	1945 Tons	1944 Tons
Virginia	41,956	55,298	35,072	113	414,276	366,386	314,405
North Carolina	51,701	81,478	92,087	103	1,152,031	1,123,387	1,031,159
South Carolina	44,330	37,800	37,836	99	636,890	639,668	613,867
Georgia	50,734	34,745	46,786	102	867,998	852,430	818,909
Florida	83,563	71,513	78,878	114	456,713	401,925	397,704
Alabama	52,500	29,500	9,150	107	638,150	593,650	540,400
Tennessee	31,998	37,575	33,025	99	209,892	211,225	196,468
Arkansas	13,350	15,750	7,600	118	112,550	95,650	94,583
Louisiana	11,975	11,550	7,550	103	127,506	123,736	131,635
Texas	21,900	15,200	9,000	139	192,741	138,235	132,576
Oklahoma	1,100	300	600	168	25,098	14,962	11,151
Total South	405,107	390,709	357,584	106	4,833,845	4,561,254	4,282,857
Indiana	50,214	33,466	24,737	142	252,954	177,914	174,474
Illinois	38,250	20,964	19,600	118	158,908	134,389	93,730
Kentucky	21,990	33,075	28,623	108	221,221	204,533	170,197
Missouri	3,960	2,870	4,764	175	150,142	85,887	70,629
Kansas	245	0	525	113	15,607	13,865	15,001
Total Midwest	114,659	90,375	78,249	130	798,832	616,588	524,031
Grand Total	519,766	481,084	435,833	109	5,632,677	5,177,842	4,806,888

FERTILIZER MATERIALS MARKET

NEW YORK

End of Spring Shipping Season Turns Interest Toward Future Supplies. Improvement for Next Season Not Expected. New Prices on Principal Materials Not Yet Announced. Potash Again on Allocation.

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, June 10, 1946.

With shipments against current contracts practically completed, interest in the fertilizer materials market is mostly confined to prospects for obtaining supplies during the coming fertilizer year. It is generally conceded that the tight supply situation experienced during the past six months will continue through 1946–47, and, in view of increasing requirements in other countries, supplies may become even harder to obtain. However, it is felt that American agriculture will receive plant foods in the amount at least equal to that consumed during the past year.

As the active shipping period is concluded, a large amount of interest for materials remains unsatisfied, and inventories of all basic fertilizers are at extremely low levels. Strikes and transportation difficulties, along with inability to obtain plant equipment, have made it impossible for producers of some basic materials to complete many contracts.

Export demand continues to be heavy and remains unsatisfied, except for relief shipments. Some offerings of foreign nitrogenous are reported in the market, but at figures more than double the prices importers are allowed to pay under OPA ceilings.

Sulphate of Ammonia

No further improvement to be noted in the supply situation, and shipments against previous commitments continue to be below demand. Uncertainty as to contract prices for the new fertilizer season is the dominant note in this market as no announcement has been made as yet by government officials.

Nitrate of Soda

There are practically no stocks available, but demand should be adequately covered by scheduled shipments due from South America early next month. Production of domestic material has been recently cut back further.

Organic Materials

Movement is strictly against previous contracts and, except for nitrogenous material as noted above, there have been no new offerings in the market. Relief in the supply position of organics cannot be seen in the immediate or near future.

Superphosphate

Abnormally high demand is continuing rather than decreasing, as is usual at this time of the season. Production remains at record-high levels with buying interest exceeding present supplies. No announcement has been made as yet as to contract prices for the new season.

Phosphate Rock

Pressure from acidulators for early shipments continues, but facilities of the producers are unable to satisfy demand. It has been rumored that sizable shipments of North African material will arrive in this market, but it is doubted that sufficient quantities can be obtained from this source to ease the present tight position.

Potash

The Civilian Production Administration has issued the expected potash re-allocation order and the procedure to be followed will be substantially the same as during the period when potash was formerly under allocation. Fertilizer mixers have received, or will shortly receive, full contract commitments, but the market remains definitely tight with no spot material available to take care of additional demand. Price schedules for the new season have not been announced to date, but it is generally believed that supplies during 1946–47 will adequately take care of domestic requirements.

PHILADELPHIA

Ample Capacity for Future Increase in Output if Materials are Available. Situation Tight in All Lines. Price Increases Expected.

PHILADELPHIA, June 10, 1946.

Notwithstanding the fact that the consuming demand for mixed fertilizers is about over, the continued shortage of raw materials is viewed with alarm; in fact, some plants have been forced to close down temporarily. On the other hand, quite a few manufacturers are planning to increase their productive capacity as soon as building operations are possible. However, those in position to know say the fertilizer capacity is ample to meet the needs of next year if the raw materials are available, and if not too much is exported.

Sulphate of Ammonia.—It is expected that there definitely will be an increase in the ceiling price, and that the present price basing system will be changed. Meanwhile, though the production has increased slightly, it cannot keep up with the demand and shipments are behind requirements. There is talk of opening a few of the Government plants that produced sulphate during the war.

Nitrate of Soda.—Demand is strong and supply insufficient. It is brought out that even if the Chilean production comes along normally, it still cannot meet the total nitrate needs, due to the reduced domestic production. It is being suggested that nitrate be placed under allocation.

Castor Pomace.—No new business is reported.

Blood, Bone, Tankage.—Production is very much reduced, and only a few lots not up to the feeding standard have moved.

Fish Scrap.—Inquiries far exceed any offerings and reports of the catch in Southern waters are not too favorable. The stuff goes to the feeding trade, anyway.

Phosphate Rock.—Shipments take everything that is mined, and still deliveries are behind requirements, which makes the accumulation of inventories impossible. While normally there is not much demand at this time of the year, the present market is decidedly tight.

Superphosphate.—The output this year was much higher than last, but still it did not meet the consuming demand. The market is definitely tight and it is difficult to procure anything for early shipment.

Potash.—There is some very limited movement in outside material, but the demand does not subside, and the market is very tight. Re-allocation has been announced but local mixers say they have no formal confirmation as yet.

CHICAGO

No Improvement in Sight in Fertilizer Organics Situation. Shortage of Packing House Materials for Feed Market.

CHICAGO, June 10, 1946.

The protests of fertilizer manufacturers against the action of the Milwaukee Sewerage Commission in discontinuing sale of Milorganite in bulk has as yet developed no complaints from Washington authorities. Meanwhile the organic situation remains as tight as ever. Offerings are eagerly sought, but no supply in the middle western territory is in sight.

The short supply of meat proteins in the feed market causes continued urgent demand and lack of offerings at ceiling prices.

Ceiling prices are:

High grade ground fertilizer tankage, $3.85 to $4.00 ($4.68 to $4.86 per unit N) and 10 cents; standard grades crushed feeding tankage, $5.53 per unit ammonia ($6.72 per unit

N) plus $7.50 per ton; blood, $5.53 ($6.72 per unit N) plus $7.50 per ton; dry rendered tankage, $1.25 per unit of protein, plus $7.50 per ton f.o.b. producing points.

CHARLESTON

Shortage in Materials for Next Season Expected. Demand Continues for All Materials. Fish Catch Much Less than Normal.

CHARLESTON, June 10, 1946.

Indications point to the fact that, in spite of increased production for the new season, there will be a shortage of 30 to 35 per cent in nitrogen and superphosphate, 5 to 10 per cent in potash.

Organics.—Absolutely nothing is being offered and, when offerings come out later, they will doubtless be considerably reduced in quantity. Nitrogenous producers hampered in getting raw materials by Government Order M-390 which gives glue production priority.

Ammonium Nitrate.—This is still in heavy demand. Supply is inadequate.

Nitrate of Soda.—Deliveries delayed, not only on Chilean but also on domestic.

Phosphate Rock.—Still in tight supply and shipments delayed by car shortage.

Fish Scrap.—It is reported that the catch so far is only one-fourth to one-third of same period last year.

Change in Ceiling on Potash Sulphate Spot Sales

An amendment to RMPR 205 to establish maximum prices on spot sales of potash sulphate brought into the country was issued by the Office of Price Administration to become effective June 1st.

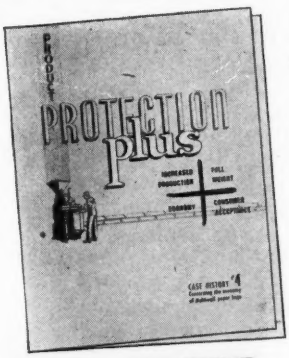
The amendment changes section 29 of the price order to read as follows:

The maximum price that may be charged for spot sales of domestic sulphate of potash (basis 90 per cent K_2SO_4), in bulk, shall be $39.25 per ton. West Coast potash ports, and $36.25 per ton, other potash ports, basis ex-vessel the potash port which has the lowest carload rail freight rate on potash to destination, plus the customary delivery charges from the end of the ship's tackle to the buyer's destination.

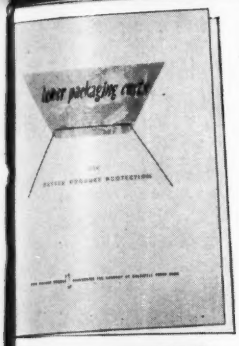
The American Potash & Chemical Corporation is planning to build a two-story office building in Los Angeles.

HESE "CASE HISTORIES" SHOW HOW ST. REGIS PACKAGING YSTEMS INCREASE PRODUCTION — REDUCE PACKAGING COSTS

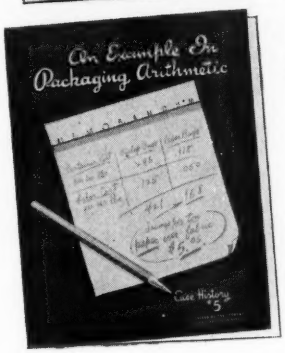
1 manufacturer of ready mixed cake flours . . . installation of a St. Regis Valve-bag Packaging System raised production from 9,000 lbs. per hour to 18,000 lbs. per hour with no increase in labor costs.



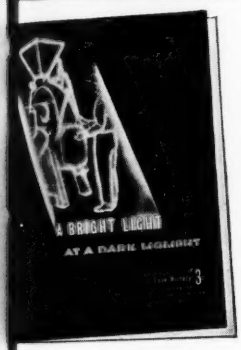
4 prominent salt manufacturer increased packaging output 18% with the same crew by changing over to the St. Regis Valve-bag Packaging System . . . and effected a saving of 45% in overall packaging costs.



2 several well-known fertilizer manufacturers were using eight men to pack burlap bags. St. Regis Valve-bag Packaging Systems enabled these companies to "up" production 20% per hour with only 5 men packing and handling.



5 manufacturer of cocoa installed a St. Regis Valve-bag Packaging System. Result: an increase of 62½% in production, a saving in labor costs of 60%, a saving in container costs of over 55%.



3 manufacturer of granite poultry grit formerly employed a 14-man crew to fill, sew and handle a maximum output of 60,000 lbs. per hour. Installation of a St. Regis Valve-bag Packaging System enabled poultry grit manufacturer to double production with smaller crew . . . reduce container costs 54.4%.

The "case histories" illustrated above have proved of great value to manufacturers throughout the country . . . perhaps they will be of equal value to your company. Write for the folders that interest you the most . . . or, if you would prefer to have a St. Regis sales representative talk over your specific problems with you, just 'phone or write your nearest St. Regis Sales Office.

Years of experience in the pioneering of automatic packaging in multiple-layer paper bags has enabled St. Regis to recommend the correct packaging system to suit the needs of manufacturers of over 300 different products including chemical, food, fertilizer and rock products. The coupon is for your convenience.

St. Regis MULTIWALL

ST. REGIS SALES CORPORATION

(Sales Subsidiary of St. Regis Paper Company)

NEW YORK 17: 230 Park Ave. CHICAGO 1: 230 No. Michigan Ave.
BALTIMORE 2: 2601 O'Sullivan Bldg. SAN FRANCISCO 4: 1 Montgomery St.

Birmingham Boston Cleveland Dallas Denver Detroit
Franklin, Va. Los Angeles Nazareth, Pa. New Orleans
No. Kansas City, Mo. Ocala, Fla. Oswego, N. Y. Seattle Toledo

IN CANADA: St. Regis Paper Co. (Can.) Ltd., Montreal, Vancouver.

Without obligation, please send me full details regarding "Case Histories" outlined above.

No. 1 ☐ No. 2 ☐ No. 3 ☐ No. 4 ☐ No. 5 ☐

Name_____

Company_____

Address_____

Potash Again Placed on Allocation

The Civilian Production Administration has placed potash salts under allocation, beginning June 1st, by issuing Schedule 120 (potash) to General Allocation Order M-300 (chemicals and allied products). The new allocation procedure is about the same as the wartime procedure under Schedule 98.

The 1946–47 year is divided into two periods: Period 8 from June 1, 1946, to March 31, 1947; Period 9 from April 1, 1947, to May 31, 1947. Filing date for fertilizer manufacturers for Period 8 was June 5th, and for Period 9 it will be January 15, 1947. To avoid delay in deliveries, suppliers may deliver to any person in any allocation period, before the receipt of a specific authorization, an amount equal to 20 per cent of the suppliers deliveries to that person during a similar period of the year ended May 31, 1946. These amounts are to be deducted from the allocation when it is issued later.

Authorization for the use of potash is not limited in duration. Any potash which has been delivered to a fertilizer manufacturer before the end of a period may be used at any time thereafter.

Orders totaling less than 50 tons (K_2O basis) during Period 8 or 10 tons K_2O during Period 9 are not subject to allocation. Also application and specific authorization are not required for the following: (1) Delivery of potash by any person who is not a producer or importer of potash. However, a person who receives potash from a producer or importer pursuant to specific authorization shall redeliver it only in accordance with the authorization. (2) Acceptance of delivery of potash from any person who is not a potash producer or importer. (3) Use of potash received from any person who is not a potash producer or importer, provided that the user is not a fertilizer manufacturer or a potash producer or importer.

The Civilian Production Administration states that any newly organized fertilizer company or existing company that has constructed or is constructing new mixed fertilizer plants should present Civilian Production Administration immediately with the following information: (1) New plant capacity, specifying number of shifts and expected days of operation per year. (2) New plant location. (3) Volume of mixed goods to be processed. (4) Proposed formulas with average potash content. (5) Do you have a firm source of supply for your phosphatic and

See page 27

nitrogenous materials? (6) Present status of plant construction. (7) Expected date of initial operation. (8) Approximate area to be served. Application for potash to be used in new plants should be filed with CPA on separate application forms.

Correspondence regarding potash allocations should be addressed to Civilian Production Administration, Chemicals Division, Washington, 25, D. C., Ref. M-300-120.

April Sulphate of Ammonia Production

The effects of the coal strike were reflected in the April sulphate of ammonia figures of the U. S. Bureau of Mines. Output dropped to 47,222 tons, a decrease of 23 per cent from March and of 32 per cent from April, 1945. Since the beginning of the year, production has run over 80,000 tons behind the same period of 1945. Sales continued to run ahead of production, with the result that stocks on hand at the end of April were only 15,176 tons as compared with 20,610 tons on March 31st.

	Sulphate of Ammonia Tons	Ammonia Liquor Tons NH^3
Production		
April, 1946	47,222	2,051
March, 1946	61,187	2,291
April, 1945	64,139	2,340
January-April, 1946	180,508	8,057
January-April, 1945	264,386	9,524
Sales		
April, 1946	52,598	2,011
March, 1946	64,203	2,199
April, 1945	69,743	2,373
January-April, 1946	197,411	7,843
January-April, 1945	304,540	9,169
Stocks on Hand		
April 30, 1946	15,176	541
March 31, 1946	20,610	668
April 30, 1945	28,774	596

Superphosphate Production for April Breaks Record

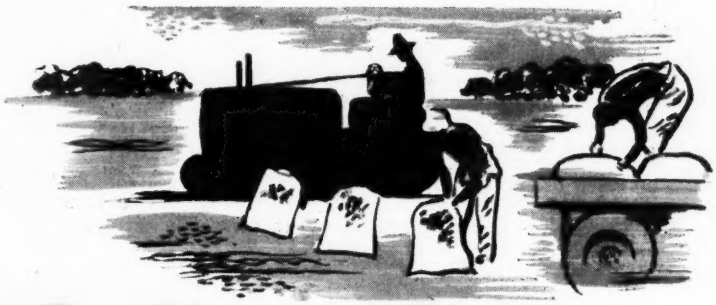
The figures of the U. S. Bureau of Census show that production of superphosphate of all kinds during April totaled 763,539 tons, figured on the basis of 18 per cent A.P.A. Comparable figures were 716,775 tons for March, 1946, and 632,403 tons for April, 1945. During the month 939,551 tons were shipped to mixers or used in the producer's plants and consequently the figure for stocks on hand dropped from 675,130 tons on March 31st to 519,430 tons on April 30th.

Production of normal (18 per cent) superphosphate was the highest on record, exceeding October, 1945, production by about 6,000 tons. While the output of concentrated was slightly less than the preceding month, it was about 20 per cent ahead of April, 1945. Detailed figures for the different types of superphosphate are as follows:

	Normal 18% A.P.A.	Concentrated 45% A.P.A.	Base Goods 18% A.P.A.
Production			
April, 1946	695,104	24,798	6,440
March, 1946	647,552	25,636	5,133
April, 1945	576,195	20,632	4,628
Shipments and Used by Producers			
April, 1946	869,921	23,884	8,920
March, 1946	836,431	25,735	12,810
April, 1945	745,502	19,680	8,160
Stocks on Hand			
April 30, 1946	425,347	36,940	1,733
March 31, 1946	580,962	36,026	4,103
April 30, 1945	665,044	20,806	2,657

Government Acid Plants Offered

The War Assets Corporation is offering for sale or lease two Government-owned sulphuric acid plants. One of these is located at Hammond, Ind., with a capacity of 72,000



You'll Save Time and Money

in the manufacture of fertilizers of dependable quality and uniform grade when you use

International Crop-Producing FERTILIZER MATERIALS

Florida Pebble Phosphate Rock
68% – 70% – 72% – 75% – 77%
Tennessee Phosphate Rock
65% – 68% – 70% – 72%
Montana Phosphate Rock
Superphosphate
Multiple Superphosphate
Domestic Potash Salts
All Standard Grades of Potash
Including SUL-PO-MAG
(Sulphate of Potash-Magnesia)
Complete Fertilizers

These two things you can be sure of when you depend on International Fertilizer Materials — the quality of the ingredients and their excellent mechanical condition. Both are important to you in manufacturing costs and in the uniformity of your own fertilizers. You get, in addition, the advantages of International's large volume production and the prompt, efficient service from its conveniently located plants.

International MINERALS CHEMICALS

MINERALS & CHEMICAL CORPORATION

General Offices • 20 North Wacker Drive • Chicago

PHOSPHATE • POTASH • FERTILIZER • CHEMICALS

tons a year and was formerly operated by the Stauffer Chemical Co. Details as to this plant can be obtained from the WAA Regional Office, 209 South LaSalle St., Chicago, Ill. The other plant is located at Front Royal, Va., with a capacity of 160,000 tons a year and was operated during the war by the General Chemical Co. Details can be obtained from the WAA Regional Office, Richmond, Va.

MAY TAG SALES

(Continued from page 14)

Comparative figures for the fertilizer year to date for the past three years are given in the following table:

FERTILIZER TAX TAG SALES
July Through May

	1945–46	1944–45	1943–44
11 Southern states	6,675,140	6,219,665	5,937,971
5 Midwestern states	1,384,720	1,125,654	945,554
Total—16 states	8,059,860	7,345,319	6,883,525

Tag sales in South Carolina and Tennessee in the first five months of 1946 were just under the sales in the same five months of 1945. The other 14 states reported increases ranging from 2 per cent in Georgia to 75 per cent in Missouri with a 9 per cent increase in the total of the 16 states. There was a 17 per cent increase in the 16 states when compared with the January-May sales of 1944.

CONVENTION

(Continued from page 13)

dealing with the fertilization of the different crops are actively at work on these problems.

The business session on Wednesday adopted a budget of $215,000 for the coming year, with the same rate of dues as in the past year. The membership of the Association was comprised of 430 companies, according to the report of Leon H. Davis, chairman of the Membership Committee.

Officers and Directors Elected

The following were elected to the Board of Directors for the term ending in 1945.

At Large

John E. Powell, Smith Agricultural Chemical Company, Columbus, Ohio; J. E. Totman, Summers Fertilizer Company, Baltimore, Md.; Louis Ware, International Minerals and Chemical Corporation, Chicago, Ill.

District

F. N. Bridgers (4), Farmers Cotton Oil Company, Wilson, N. C.; W. H. Gordon (2) Chamberlin & Barclay, Inc., Cranbury, N. J.; L. D. Hand (6), Pelham Phosphate Company, Pelham, Ga.; Weller Noble (12), Pacific Guano Company, Berkeley, Calif.; W. Newton Long (3), Miller Chemical and Fertilizer Corporation, Baltimore, Md.; M. H. Whipple (1), Olds and Whipple, Inc., Hartford, Conn.

The following were also elected to fill other vacancies in the Board:

J. A. Chuska, Eastern States Farmers Exchange, West Springfield, Mass.; E. B. Helgeson, Magnolia Fertilizer Company, Seattle, Wash.; B. T. Truitt, Worcester Fertilizer Company, Snow Hill, Md.; W. L. Waring, Lyons Fertilizer Company, Tampa, Fla.; Y. O. Reed, Lion Oil Company, El Dorado, Ark.

The new Board of Directors at their organization meeting elected Weller Noble, of Pacific Guano Company, Berkeley, Calif., chairman of the Board, and R. L. King, of the Georgia Fertilizer Company, Valdosta, Ga., as vice-chairman. The Board confirmed the previous selection of Maurice H. Lockwood as full-time President of the Association, and D. S. Murph as Secretary-Treasurer.

CLASSIFIED ADVERTISEMENTS

Advertisements for sale of plants, machinery, etc., and for help and employment in this column, same type as now used, 60 cents per line, each insertion.

WANTED—Experienced fertilizer control chemist for midwest laboratory of large well-known corporation. In reply give complete details, experience, qualifications. Address "190," care THE AMERICAN FERTILIZER, Philadelphia.

Torrence Rejoins Link-Belt

William C. Carter, president, Link-Belt Company, has announced that at a special meeting of the Board of Directors held in Chicago May 7, 1946, arrangements were made for George P. Torrence to again become associated with Link-Belt Company.

Mr. Torrence will rejoin the Link-Belt organization on July 1, 1946 as executive vice-president, and will become president of Link-Belt Company November 1, 1946, at which time Mr. Carter retires as president, in accordance with the company's retirement plan.

Mr. Torrence was with Link-Belt Company from 1911 to 1936, when he resigned as president. He has been in Cleveland since 1936 as vice-president and general manager of The Rayon Machinery Corporation, a subsidiary of The Industrial Rayon Corporation, and as president of The Cleveland Pneumatic Tool Company.

SPENCER CHEMICAL CO. ENTERS FERTILIZER NITROGEN FIELD

(Continued from page 11)

also serves as vice president in charge of operations of the Midwest Smokeless Fuel Corporation, St. Louis, Mo. (this corporation is now the Midwest Radiant Corporation of which Mr. Spencer has been director since 1938). He is also president of the Osage Coal Company. Mr. Spencer's wartime activity included the building for the War Department and operation of a $30,000,000 ordnance plant near Pittsburg, Kans.

Mr. Spencer serves as director for the First National Bank of Kansas City, Mo.; National Coal Association, Washington, D. C.; and president of the Associated Industries of Kansas, Wichita, Kans.

Culpepper Appointed Fertilizer Sales Manager

Joe E. Culpepper, formerly general sales manager with Synthetic Nitrogen Products Corporation, has assumed the duties of director of sales, Fertilizer Division for the Spencer Chemical Company.

Born, reared, and educated in Mississippi, Mr. Culpepper continued his contacts with Southern industry and agriculture by accepting the position of commercial agronomist with Synthetic Nitrogen Products immediately upon graduation from Mississippi State College in 1929. Later, he served that company as district sales manager with extensive experience in the Georgia, Alabama, Tennessee, Arkansas, Louisiana, Texas, and Oklahoma area. He was later connected with the American Cyanamid Co. as district sales manager in the Delta district.

Seventeen years of study and research with the fertilizer industry, agriculture, and institutional activity in the southeastern and southern areas of the United States, have given Mr. Culpepper thorough experience in

Joe E. Culpepper,
Director of Sales
Spencer Chemical Company

the field as an agronomist, salesman, plus proved ability as an executive for the fertilizer industry. His knowledge of the most advanced practices for increasing agricultural production, which must be faced with the present food shortage, will be of benefit to the fertilizer industry and agriculture.

See Page 20

Wilbur-Ellis Appointments

The Wilbur-Ellis Company, Los Angeles, has announced the election of Ned Lewis as vice-president in charge of southern California and Arizona business. Other appointments include William E. Snyder as general manager of the Southwestern Supply Co., the company's fertilizer division; James E. Baker, manager of grain, feed and concentrates business; Robert B. Young, who will handle fish oil and meal, tallow and fiber in southern California.

PRELIMINARY REPORT ON FFRTILIZER CONSUMPTION FOR THE YEAR ENDED JUNE 30, 1944

(Continued from page 9)

ture in Continental United States as well as the amounts shipped to Hawaii and Puerto Rico are given in Table II. The totals in this table are slightly different from the corresponding ones in Table I. The reason for this is that the data in the two tables are derived from entirely different sources.

The consumption of nitrogen, phosphoric acid, and potash is presented in Table III by states.

TABLE III

CONSUMPTION OF PLANT FOOD, BY STATES, YEAR ENDED JUNE 30, 1944

State and Region	In Mixed Fertilizers			In All Fertilizers[1]		
	Nitrogen (N) Tons	Phosphoric Acid (P_2O_5) Tons	Potash (K_2O) Tons	Nitrogen (N) Tons	Phosphoric Acid (P_2O_5) Tons	Potash (K_2O) Tons
Maine	12,798	20,451	27,177	13,521	23,196	27,237
New Hampshire	819	1,630	1,509	1,111	3,231	1,450
Vermont	623	1,410	1,065	794	7,167	1,182
Massachusetts	3,559	6,054	5,302	4,647	8,949	5,821
Rhode Island	634	1,266	1,098	729	1,793	1,135
Connecticut	2,933	4,507	4,031	4,495	7,697	5,439
New England	21,366	35,318	40,182	25,297	52,033	42,264
New York	14,752	36,603	24,261	18,981	71,040	25,045
New Jersey	9,663	24,461	18,515	10,892	27,668	19,724
Pennsylvania	11,804	43,904	24,595	12,794	63,022	24,770
Delaware	1,232	4,828	3,441	1,498	5,332	3,486
District of Columbia	61	146	75	64	182	76
Maryland	5,931	21,014	13,527	6,721	25,999	13,654
West Virginia	1,435	5,04	2,546	1,698	9,486	2,558
Middle Atlantic	44,878	136,003	86,960	52,648	202,729	89,313
Virginia	13,254	43,055	24,515	19,256	61,864	24,772
North Carolina	38,948	105,374	66,199	68,701	117,363	70,999
South Carolina	22,118	58,001	34,560	50,098	64,432	42,043
Georgia	30,355	75,204	46,700	57,655	99,836	49,991
Florida	30,112	54,041	49,168	34,434	57,843	53,231
South Atlantic	134,787	335,675	221,142	230,144	401,338	241,036

(Continued on page 30)

TABLE III (Continued from page 28)
CONSUMPTION OF PLANT FOOD, BY STATES, YEAR ENDED JUNE 30, 1944

State and Region	In Mixed Fertilizers			In All Fertilizers[1]		
	Nitrogen (N) Tons	Phosphoric Acin (P_2O_5) Tons	Potash (K_2O) Tons	Nitrogen (N) Tons	Phosphoric Acid (P_2O_5) Tons	Potash (K_2O) Tons
Ohio	11,132	65,153	37,194	12,688	73,291	37,343
Indiana	6,599	47,958	35,834	8,078	52,961	36,128
Illinois	2,256	14,171	10,504	3,124	23,437	10,871
Michigan	5,621	30,248	20,293	7,643	37,030	20,380
Wisconsin	3,328	19,997	14,334	4,897	29,222	15,032
East North Central	28,936	177,527	118,159	36,430	215,941	119,754
Minnesota	1,051	5,484	4,193	1,201	12,176	4,216
Iowa	795	5,751	3,808	1,021	11,299	3,892
Missouri	1,366	7,212	4,405	1,534	28,257	4,633
North Dakota	23	257	162	23	650	162
South Dakota	1	13	6	1	76	6
Nebraska	5	24	8	6	605	8
Kansas	132	634	322	142	8,015	324
West North Central	3,373	19,375	12,904	3,928	61,078	13,241
Kentucky	4,540	16,067	8,724	6,335	43,346	8,798
Tennessee	5,145	19,160	10,238	10,139	42,470	11,057
Alabama	23,623	48,159	26,310	45,502	77,174	27,518
Mississippi	12,283	20,326	12,054	52,610	30,914	13,620
Arkansas	4,033	9,402	6,875	12,909	17,473	9,219
Louisiana	5,832	13,716	5,745	18,573	18,708	6,529
Oklahoma	532	1,465	603	630	2,845	609
Texas	7,129	16,448	6,678	12,378	23,899	6,826
South Central	63,117	144,743	77,227	159,076	256,829	84,176
Montana	71	263	1	74	3,024	3
Idaho	305	986	66	866	6,493	197
Wyoming	7	18	2	9	878	2
Colorado	149	388	47	776	2,835	52
New Mexico	20	56	21	23	1,652	21
Arizona	568	1,104	153	2,881	2,925	362
Utah	28	92	16	197	2,306	20
Nevada	13	18	5	17	113	5
Washington	1,366	2,446	1,515	4,858	7,109	1,904
Oregon	596	1,120	676	3,030	5,054	1,011
California	13,279	15,818	8,184	59,462	27,607	10,010
Western	16,402	22,309	10,686	72,193	59,996	13,587
Continental U S.	312,859	870,950	567,260	579,716	1,249,944	603,371
Hawaii	5,030	3,674	6,682	14,050	5,298	8,461
Puerto Rico	16,846	10,231	14,570	23,216	10,235	14,582
Territories	21,876	13,905	21,252	37,266	15,533	23,043
Total, 1943–44	334,735	884,855	588,512	616,982	1,265,477	626,414
1942–43[2]	236,618	793,225	569,766	439,772	1,270,936	634,611
1938–39[2]	202,812	505,707	336,001	384,424	781,541	399,048
1933–34[2]	152,070	383,960	220,868	270,000	515,000	260,100
1923–24	112,000	420,000	183,000	250,000	625,000	257,000
1913–14	92,000	408,000	159,000	214,000	660,000	240,000

[1] Includes Government distribution. [2] Revised.

BUYERS' GUIDE • A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"

AMMONIA—Anhydrous and Liquor
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.
Nitrogen Products, Inc., New York City
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM NITRATE
Spencer Chemical Co., Kansas City, Mo.

BAG MANUFACTURERS—Burlap
Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
Fulton Bag & Cotton Mills, Atlanta, Ga.
Mente & Co., Inc., New Orleans, La.
Virginia-Carolina Chemical Corp., Richmond, Va.

BAG MANUFACTURERS—Cotton
Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
Fulton Bag & Cotton Mills, Atlanta, Ga.
Mente & Co., Inc., New Orleans, La.
Virginia-Carolina Chemical Corp., Richmond, Va

BAG MANUFACTURERS—Paper
Bagpak Inc., New York City
Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
Fulton Bag & Cotton Mills, Atlanta, Ga.
Hammond Bag & Paper Co., Welisburg, W. Va.
Jaite Company, The, Jaite, Ohio
Raymond Bag Co., Middletown, Ohio.
St. Regis Paper Co , New York City.

BAGS—Dealers and Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
Huber & Company, New York City.
McIver & Son. Alex. M., Charleston. S. C.

BAG CLOSING MACHINES
St. Regis Paper Co., New York City.
Union Special Machine Co., Chicago, Ill.

BAG PRINTING MACHINES
Schmutz Mfg. Co., Louisville, Ky.

BAGGING MACHINES—For Filling Sacks
Exact Weight Scale Co., Columbus, Ohio
St. Regis Paper Co., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Utility Works, The, East Point, Ga.

BONE BLACK
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Huber & Company, New York City.

BONE PRODUCTS
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

BORAX AND BORIC ACID
American Potash and Chem. Corp., New York City.

BROKERS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

BUCKETS—For Hoists, Cranes, etc.
Hayward Company, The, New York City.

BUCKETS—Elevator
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CARS AND CARTS
Hough Co., The Frank G., Libertyville, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

CHEMICALS
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill
McIver & Son, Alex. M., Charleston, S. C.
Nitrogen Products, Inc., New York City
Scar-Lipman & Co., Inc., Irvington, N. J.
Virginia-Carolina Chemical Corp., Richmond, Va.

CHEMISTS AND ASSAYERS
Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Stillwell & Gladding, New York City.
Wiley & Company, Baltimore, Md.

CONDITIONERS
American Cyanamid Co., New York City
American Limestone Co., Knoxville, Tenn.
Keim, Samuel D., Philadelphia, Pa.

COTTONSEED PRODUCTS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C
Scar-Lipman & Co., Inc., Irvington, N. J
Schmaltz, Jos. H., Chicago, Ill.

CYANAMID
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Scar-Lipman & Co., Inc., Irvington, N. J.

DRYERS
Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial
Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

FERTILIZER (Mixed) MANUFACTURERS
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
International Minerals and Chemical Corporation, Chicago, Ill
Virginia-Carolina Chemical Corp., Richmond, Va.

FISH SCRAP AND OIL
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.

FOUNDERS AND MACHINISTS
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

A Classified Index to Advertisers in "The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

HOPPERS
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

IMPORTERS, EXPORTERS
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Scar-Lipman & Co., Inc., Irvington, N. J.

INSECTICIDES
American Agricultural Chemical Co., New York City.

LIMESTONE
American Agricultural Chemical Co., New York City.
American Limestone Co., Knoxville, Tenn.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.

LOADERS—Car and Wagon
Hough Co., The Frank G., Libertyville, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making and Handling
Chemical Construction Corp., New York City.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Ammoniating
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Elevating and Conveying
Hough Co., The Frank G., Libertyville, Ill.
Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Grinding and Pulverizing
Bradley Pulverizing Co., Allentown, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Material Handling
Hayward Company, The, New York City.
Hough Co., The Frank G., Libertyville, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Mixing, Screening and Bagging
Exact Weight Scale Co., Columbus, Ohio
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Power Transmission
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Superphosphate Manufacturing
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MANGANESE SULPHATE
McIver & Son, Alex. M., Charleston, S. C.

MIXERS
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

NITRATE OF SODA
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.

NITRATE OF SODA—Continued
International Minerals & Chemical Corporation, Chicago, Ill
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

NITROGENOUS ORGANIC MATERIAL
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.

NOZZLES—Spray
Monarch Mfg. Works, Philadelphia, Pa.

PHOSPHATE ROCK
American Agricultural Chemical Co. New York City.
American Cyanamid Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill
McIver & Son, Alex. M., Charleston, S. C.
Ruhm, H. D., Mount Pleasant, Tenn.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.
Southern Phosphate Corp., Bartow, Fla.
Virginia-Carolina Chemical Corp., Richmond, Va.

PLANT CONSTRUCTION—Fertilizer and Acid
Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

POTASH SALTS—Dealers and Brokers
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

POTASH SALTS—Manufacturers
American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

PRINTING PRESSES—Bag
Schmutz Mfg. Co., Louisville, Ky.

PYRITES—Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.

REPAIR PARTS AND CASTINGS
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

ROUGH AMMONIATES
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

SCALES—Including Automatic Bagging
Exact Weight Scale Co., Columbus, Ohio
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

BUYERS' GUIDE

SCREENS
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

SEPARATORS—Air
Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS—Acid Chambers
Monarch Mfg. Works, Inc., Philadelphia, Pa.

STEVEDORES
Doran Company, James, Charleston, S. C.

SULPHATE OF AMMONIA
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Hydrocarbon Products Co., New York City.
McIver & Son, Alex. M., Charleston, S. C.
Nitrogen Products, Inc., New York City
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

SULPHUR
Ashcraft-Wilkinson Co., Atlanta, Ga.
Texas Gulf Sulphur Co., New York City.
Virginia-Carolina Chemicrl Corp., Richmond, Va.

SULPHURIC ACID
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

SUPERPHOSPHATE
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Virginia-Carolina Chemical Corp., Richmond, Va.

SUPERPHOSPHATE—Concentrated
Armour Fertilizer Works, Atlanta, Ga.
International Minerals & Chemical Corporation, Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Virginia-Carolina Chemical Corp., Richmond, Va.

TANKAGE
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Scar-Lipman & Co., Inc., Irvington, N. J.
Schmaltz, Jos. H., Chicago, Ill.

UREA
DuPont de Nemours & Co., E. I., Wilmington, Del.

UREA-AMMONIA LIQUOR
DuPont de Nemours & Co., E. I., Wilmington, Del.

VALVES
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Utility Works, The, East Point, Ga.

Alphabetical List of Advertisers

PCA'S RED INDIAN LOOKS AHEAD...

Soil scientists and practical farmers agree that the wisdom of high potash application is unquestioned. It is a thoroughly established fact that *Potash Pays.*

Potash is one of the large lacks in American soil. PCA, now in its second decade of service, faces the coming era of heavy fertilization, determined to make utmost effort to produce and supply high grade Red Muriate of Potash to meet the needs of the fertilizer industry . . . to continue to merit the confidence and reliance which the industry has displayed toward this company and its products.

P.C.A.
"The SALT of the EARTH"
RED MURIATE

POTASH COMPANY of AMERICA

ARMY E NAVY

CARLSBAD, NEW MEXICO

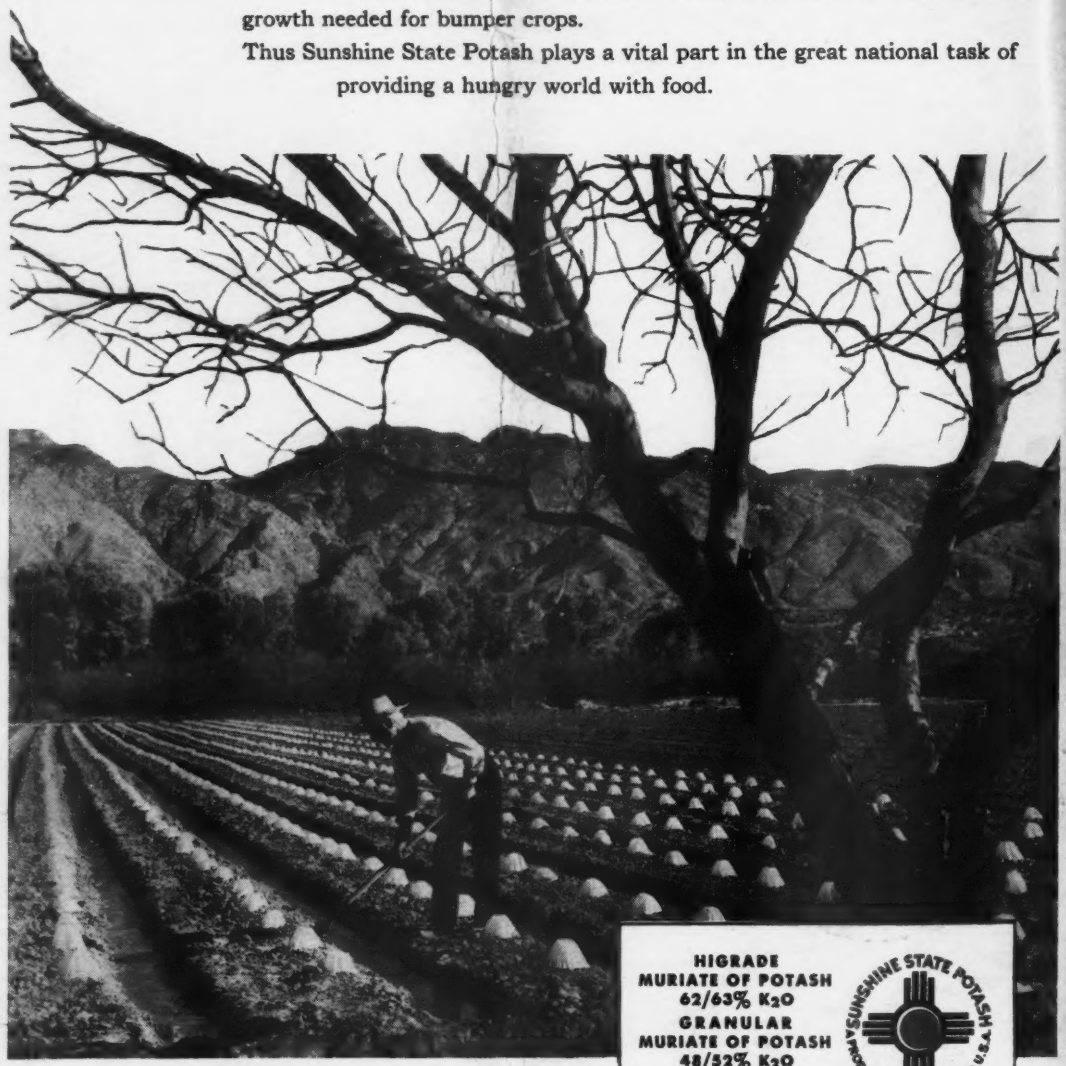
GENERAL SALES OFFICE...50 Broadway, New York, N. Y. • MIDWESTERN SALES OFFICE...612 Lehmann Bldg., Peoria, Ill.
SOUTHERN SALES OFFICE...Mortgage Guarantee Building, Atlanta, Ga.

GROUNDWORK FOR BUMPER CROPS...

The nation's farmers realize that successful harvests begin with conscientious planning and careful attention to new plants. They know that fertile soil is the first necessity for strong, healthy growth and abundant yields.

Your fertilizers, most of them compounded with potash, enable them to accomplish the huge task of raising enough food to fill the world's storehouses. Potash increases resistance to disease and drought . . . insures the healthy growth needed for bumper crops.

Thus Sunshine State Potash plays a vital part in the great national task of providing a hungry world with food.



UNITED STATES POTASH COMPANY

Incorporated

30 Rockefeller Plaza, New York 20, N. Y.

HIGRADE
MURIATE OF POTASH
62/63% K_2O

GRANULAR
MURIATE OF POTASH
48/52% K_2O

MANURE SALTS
22/26% K_2O

SUNSHINE STATE POTASH U.S.A. PRODUCT OF NEW MEXICO

Reg. U. S. Pat. Off.